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Greening

Canada's

Brownfield Sites



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National Round Table
on the Environment
and the Economy



Table ronde nationale
sur l'environnement
et l'économie

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*State of the Debate
on the Environment and the Economy:
Greening Canada's Brownfield Sites*

National Round Table
on the Environment
and the Economy



Table ronde nationale
sur l'environnement
et l'économie



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Mandate



The National Round Table on the Environment and the Economy (NRTEE) was created to “play the role of catalyst in identifying, explaining and promoting, in all sectors of Canadian society and in all regions of Canada, principles and practices of sustainable development.” Specifically, the agency identifies issues that have both environmental and economic implications, explores these implications, and attempts to identify actions that will balance economic prosperity with environmental preservation.

At the heart of the NRTEE's work is a commitment to improve the quality of economic and environmental policy development by providing decision makers with the information they need to make reasoned choices on a sustainable future for Canada. The agency seeks to carry out its mandate by:

- advising decision makers and opinion leaders on the best way to integrate environmental and economic considerations into decision making;
- actively seeking input from stakeholders with a vested interest in any particular issue and providing a neutral meeting ground where they can work to resolve issues and overcome barriers to sustainable development;
- analysing environmental and economic facts to identify changes that will enhance sustainability in Canada; and
- using the products of research, analysis, and national consultation to come to a conclusion on the state of the debate on the environment and the economy.

The NRTEE's *State of the Debate* reports synthesize the results of stakeholder consultations on potential opportunities for sustainable development. They summarize the extent of consensus and reasons for disagreement, review the consequences of action or inaction, and recommend steps specific stakeholders can take to promote sustainability.

Membership



The NRTEE is composed of a Chair and up to 24 distinguished Canadians. These individuals are appointed by the Prime Minister as opinion leaders representing a variety of regions and sectors of Canadian society including business, labour, academia, environmental organizations, and First Nations. Members of the NRTEE meet as a round table four times a year to review and discuss the ongoing work of the agency, set priorities, and initiate new activities.

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Foreword

The National Round Table on the Environment and the Economy (NRTEE) established the Financial Services Program to examine barriers to redeveloping brownfields sites and to find solutions to overcome them. As well, the program examined the state of information on the environmental condition of land and made recommendations for its improvement. As Chair of the NRTEE, I am pleased to introduce this *State of the Debate* report, which is the product of the program's extensive consultations with major stakeholders and experts in the field, and associated research documenting current practices and opinion. This report also builds on the work of the Canadian Council of Ministers of the Environment, which has been very active, for the past seven years, on issues surrounding contaminated sites.

We hope that the discussion and recommendations presented here will help raise awareness about the potential of redeveloping brownfields and about the need to develop creative solutions to re-using them. We also hope that it will stimulate the growth and accuracy of site-specific data on the environmental condition of land.



Stuart L. Smith, M.D.
Chair, NRTEE

Preface



Greening Canada's Brownfield Sites is part of the National Round Table on the Environment and the Economy's (NRTEE) series of *State of the Debate* publications. It is based on extensive consultation with a wide range of stakeholder groups, including federal, provincial and municipal governments, financial services companies, the insurance industry, First Nations, and environment-related non-governmental organizations. These stakeholders also support the Canadian Council of Ministers of the Environment's 13 principles for a consistent approach to contaminated site liability, adopted in 1993.

Prepared as a tool to encourage further discussion and decision making, this report defines the problems associated with the clean-up of these former industrial sites, called brownfields. As well, the report identifies barriers and possible solutions to these problems, records stakeholder consensus and disagreement, and offers recommendations on how to advance the redevelopment of these sites — many of which are abandoned or under-used. The report also describes the state of environmental condition of land information and makes recommendations to improve and augment this body of knowledge. This is important because many of these sites need to be identified, and then redeveloped based on scientific fact. It is hoped that the report will also stimulate legal clarification on questions of liability, and the development of supportive insurance programs and products.

To the participants who gave so freely of their time and who contributed openly and cooperatively to the success of the Task Force for the Financial Services Program, the NRTEE extends its gratitude and thanks.

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Executive Summary



Across Canada, thousands of contaminated sites lie abandoned or underutilized, the result of a century of industrialization. Their current condition poses health and economic threats. Many of these sites have not been identified because of insufficient information on the environmental condition of land. Although many of these sites are capable of being cleaned up economically and brought into productive use, the rate of clean-up is slow.

Lands once used for industrial purposes, while perhaps managed sensibly according to the environmental requirements of the day, are often contaminated, or perceived to be so, by today's standards and expectations.

Many cities also have filled in ravines and valleys with soil of uncertain origin. If risks to human health are controlled and migration of past contamination is not an issue, former industrial lands can be considered to be brownfields ripe for redevelopment into commercial, residential or recreational uses. The number of contaminated industrial sites (brownfields) across Canada has been estimated to be more than 2,900, including some in rural areas.

These "higher" uses of land will increase property tax revenues for a municipality. For example, it was estimated in 1995 that the City of Toronto's industrial-zoned properties comprised more than 1,000 hectares (about 15 percent of all its assessed commercial and industrial properties) — this represents \$150 million of the city's 1996 local tax revenue.

However, many of these lands are underutilized or need to be redeveloped. The impact of reusing these sites is considerable. It is estimated that the foregone taxes on these lands amount to more than \$22 million — half of which is probably foregone on brownfields alone.

When the new, amalgamated Metro Toronto emerges in 1998, the tax assessment will be five times larger than the former City of Toronto's. The tax revenues across Metro Toronto now being foregone on half of the underutilized industrial-zoned land amount to \$55 million annually. At today's effective overall tax rate of about 7.7 percent, this implies foregone property values of more than \$700 million for underutilized industrial-zoned lands.

The goal of the Financial Services Program of the National Round Table on the Environment and the Economy (NRTEE) was twofold:

Definition of Brownfield

Brownfield sites are abandoned or under-used properties where past actions have caused real or suspected environmental contamination. Although they are classified as a subset of contaminated sites, these sites exhibit good potential for other uses and usually provide economically viable business opportunities. They are mainly located in established urban areas, where existing municipal services are readily available, or along transportation corridors. They may include, but are not limited to: decommissioned refineries, railway yards, dilapidated warehouses, abandoned gas stations, former dry cleaners, and other commercial properties where toxic substances may have been stored or used.

- To examine barriers to brownfield redevelopment and find solutions to overcome them; and
- To examine the state of information on the environmental condition of land and make recommendations for improvement.

Five multistakeholder meetings were held across the country from October 1996 to March 1997 and were attended by nearly 200 participants. These participants are the gatekeepers and opinion leaders who are dealing with issues concerning brownfields and other contaminated sites. The following recommendations reflect their strongly held concerns.

Many of the participants run businesses that operate nationally and internationally. The lack of consistency in the laws governing contaminated sites across the country adds to their business costs and discourages them from investing in certain regions.

The participants support the 13 principles for a consistent approach to contaminated site liability adopted by the Canadian Council of Ministers of the Environment (CCME) in 1993.¹ The implementation of these principles was left to the initiative of the federal, provincial and

¹ Canadian Council of Ministers of the Environment, *Contaminated Site Liability Report: Recommended Principles for a Consistent Approach Across Canada* (March 23, 1993).

territorial governments. Participants regret that the implementation of these principles has been uneven and slower than expected, although the pace of change has accelerated in the last year. They are concerned that some governments seem more concerned with maintaining fiefdoms rather than providing good governance and a clear framework of laws that will attract investment, business, and jobs.

The five meetings produced clear indications of barriers and solutions, which are noted below. In all cases, it was recognized that during any brownfield redevelopment or examination of the condition of land, the paramount consideration is protecting human health. Beyond that, the challenge is to create an investment climate that encourages entrepreneurs to find productive and profitable uses for these sites with the cooperation of all levels of government.

Key Issues

1. Legal Uncertainty

Barrier

The current lack of clarity and uncertainty in many laws relating to environmental liability and clean-up responsibility deter investors and developers wishing to redevelop brownfields.

Recommendations

Where they have not already done so, federal, provincial and territorial governments should move quickly to align their environmental laws with the CCME's 13 principles. Manitoba and British Columbia have already done so, and Alberta has made substantial progress. New Brunswick has adopted the principles with some modifications. The remaining provinces and the

federal and territorial governments must make the necessary changes.

To reduce confusion, it is critical that the laws and standards governing contaminated sites within the various jurisdictions be harmonized and simplified.²

Clear rules governing the process should be introduced to streamline decision making.

2. Liability Issues

Barriers

The principle of joint and several liability states that where a number of people share responsibility for a financial obligation, if some of them are unable to pay their portion, the creditor can obtain the balance from the others. The application of joint and several liability has tended to deter people in the financial services industry from becoming involved with contaminated sites. This has limited the flow of capital and the availability of insurance for redeveloping brownfields and other contaminated sites.

The difference between the act of lending to redevelop a contaminated site (finance) and the voluntary transfer and assumption of risk (insurance) should be recognized. The act of lending, in itself, should not create a liability unless the lender exerted operational control over the company creating the pollution, or financed a project that the lender knew, or ought to have known, would potentially pollute, but failed to ensure that acceptable pollution prevention measures were taken during the project.

The eighth principle recommended by the CCME states that member governments should focus on designing a process that will facilitate the efficient clean-up of sites and the fair allocation of liability.³ It also notes that the process

² This would be helped by a process such as the one suggested by the Canadian Home Builders' Association summarized in Appendix IV. As well, this or another process might be helpful in achieving scientific certainty regarding risks posed by various contaminants to human and environmental health, while obtaining the most benefits from scarce financial and human resources.

³ Canadian Council of Ministers of the Environment, *Contaminated Site Liability Report: Recommended Principles for a Consistent Approach Across Canada* (March 23, 1993), p. 6.

should discourage litigation to the maximum extent possible by promoting the use of alternative dispute resolution procedures. It recommends the use of joint and several liability as a last resort, recognizing that this threat would encourage successful mediation. The retention of joint and several liability is opposed by many stakeholders who view it as contrary to the principles of fairness and polluter pays.

Recommendation

The laws in Canada that apply joint and several liability to clean up contaminated sites and for third-party liability arising out of contaminated sites should be amended to follow the CCME principles. Joint liability should be used only as an absolute last resort against the parties responsible for contamination who fail to participate in or who abuse the allocation process. These laws should embrace the concept of orphan shares. (See Recommendation 5: Orphan Issues.)

3. Scientific Standards

Barrier

Although sufficient scientific information is available, the absence of clear standards to assess the costs of clean-up and exposure to liability is a major barrier to redevelopment. Consequently, municipalities are unwilling to sign off on clean-ups, and developers are loath to undertake them.

Recommendations

Unambiguous, science-based standards need to be developed for all levels of government. This can be achieved through data-gathering protocols, evaluation of current databases, development of new data and re-evaluation of existing data, and fixed, periodic reviews of information.

The CCME has provided leadership in developing soil-quality guidelines for human health, a framework for ecological risk assessments, and a guidance manual for developing site-specific, soil-quality remediation objectives for contaminated sites. These documents require the federal, provincial and territorial governments to devel-

op rigorous scientific criteria, however some governments do not have either the funds or the scientists to do this job well. *Real savings would result if efforts were pooled by using the scientific resources of groups such as Health Canada or the National Research Council.*

There is a focused and ongoing role for national bodies such as the CCME, Health Canada and the National Research Council in protocol development, re-evaluation of existing data, and assembly and evaluation of new data.

4. Insurance Product Development

Barriers

The insurance industry has been actively developing new products to support brownfield redevelopment, especially in the past year. The price and availability of these products depend on market demand and on greater clarity in the law to enable more precise definition of the extent of risk.

There are gaps in insurance coverage that need to be addressed. For example, some provinces have downloaded the responsibility for assessment and approval processes to the municipalities. In turn, municipalities are concerned about the potential liability that these responsibilities entail. They would like insurance coverage, but find that it is either unavailable or difficult to obtain.

To the benefit of all parties involved in a contaminated property transaction, an environmental insurance program can include:

- Clean-up Cost Cap Insurance to "cap" projected costs at expected value.
- An Owner-Controlled Insurance Program or Contractor-Controlled Insurance Program to manage or control present and future insurance liabilities rising out of project activities.
- Pollution Legal Liability to protect the insured against claims arising from pollution conditions within, on, or under covered locations or emanating from covered locations. Pollution conditions can be unknown and pre-existing or the result of ongoing operations.

Recommendation

Provincial governments and key municipal governments with an interest in brownfield redevelopment should confer with property and casualty insurers to develop or adapt insurance products that would help municipal governments manage risks associated with redeveloping brownfields. Conveners of such a meeting could be the Federation of Canadian Municipalities and the Insurance Council of Canada.

5. Orphan Issues

Barriers

Orphan sites are a major problem in Canada. There is no reliable estimate of the number of these sites or of the likely remediation costs. An orphan contaminated site is one for which viable responsible parties cannot be found. They may have gone bankrupt, they may have left the country, or they may be unwilling or unable to accept responsibility. The bottom line is that they are unavailable to clean up a contaminated site.

An orphan share can be created under the concept of several responsibility. When people are severally responsible, they are required to pay their fair share and no more. If one or more debtors are unable to pay, then orphan shares are created, which puts pressure on government to cover their cost. Governments resist picking up these costs because of the shortage of public funds, which is one reason they prefer to retain joint and several liability.

There is no national funding mechanism for covering the cost of cleaning up orphan sites and shares. However, in Alberta, the Canadian Petroleum Products Institute (CPPI) and the provincial government are developing a funding mechanism for cleaning up some sites contaminated by underground tanks belonging to CPPI-related companies.

In 1993-94, the CCME achieved some consensus on funding mechanisms. However, these negotiations encountered difficulties over the following issues: the proportion of public funding in

any public or private fund; the method of collecting contributions from the private sector; and the suitability of the concept of orphan sites and shares. Concerning the latter, one province and some environmental non-governmental organizations stated that this concept could burden the public sector and the fund with more than a fair share of the clean-up cost. This opinion anticipated that some private sector parties would negotiate for an overvaluation of the orphan share.

These deliberations ended in late 1994 when the federal government and one province stated that there was no such thing as an orphan share, and that someone could always be found to cover the cost. In contrast, most stakeholder participants consider that orphan sites and shares do exist.

Recommendation

The CCME should resume its work to develop mechanisms for funding the clean-up of orphan sites and shares.

6. Data on the Environmental Condition of Land

Barriers

Existing site-specific data on the environmental condition of land are scattered among many databases, few of which are cross-referenced. While most people believe that better information on the environmental condition of land is important for monitoring and preventing contamination and can provide substantial economic benefit, there is little consensus on who should collect this information, how it should be done, and what data should be included.

Some owners do not want to know the environmental condition of their properties. If they do know something negative, they usually prefer to keep the information private, because its release might affect the values of their properties as well as neighbouring properties. On the other hand, people with a keen interest in sustainable development recognize the importance of having a

solid information base to measure the effects of human activities on public health and land.

Information technologies have been advancing rapidly, but most people are not aware that these technologies could efficiently and inexpensively compile better information on the environmental condition of land.

Recommendation

A single-focus multistakeholder meeting⁴ should be organized by Statistics Canada and the NRTEE with input from the CCME to address issues of current disagreement, such as:

- *What information is required to manage the Canadian land base on a sustainable basis?*
- *What information is available now, and what information is required by users in all sectors?*
- *How can access to this information be improved, for example by using electronic information technology?*
- *What is the best way to deal with sensitive or confidential information, for example to ensure that property values are not unjustifiably depressed?*
- *What is the best way to inform the public so that the issues are objectively understood and do not cause unnecessary alarm? A process for public education may be required.*
- *How can assembling better site-specific information help prevent future contamination?*

7. Public Information and Public Education

Barriers

The public may overreact to information that some sites are contaminated. This could place a stigma on the properties and defer development indefinitely.

Some of the information is currently considered confidential. Property owners will be unwilling to share information with government officials if it will be made public; however, this runs counter to the broader public safety issue.

Some participants believe that the public needs to be involved in residential developments, but not in commercial or industrial projects.

Information made available to the public may not be reliable. The provider may be liable for inaccuracies; however, a disclaimer could limit this problem.

Recommendations

A mechanism needs to be developed within each province, territory and First Nation to involve the public in redeveloping brownfields and to ensure that they are well-informed. Among other things, the mechanism should address the need for a transparent process to build public trust.

A casebook, based on successful cases found across the country, should be created on brownfield redevelopment.

8. Leadership by Example

Barriers

Governments have set a poor example in dealing with their own notoriously contaminated sites (for example the Sydney, Nova Scotia, Tar

⁴ A multistakeholder meeting could include the following participants: Statistics Canada and other organizations in the public sector leading in this area, for example, the New Brunswick Geographic Information Corporation; private companies supplying or planning to supply this sort of information; companies involved in the remediation of contaminated land; Canada Mortgage and Housing Corporation; Canadian Home Builders' Association; the Federation of Canadian Municipalities; the Urban Development Institute; the Canadian Urban Institute; banks; property and casualty insurers; credit unions; caisses populaires; trust companies; receivers; NGOs; and First Nations.

Ponds). A shortage of funds and human resources means that governments, companies, and individuals all too often avoid coming to terms with these issues.

Environmental regulation lacks an integrated approach. Regulators tend to focus only on air, water or, more recently, on soil. Their attempts to solve a problem in one environmental medium often transferred it to another. For example, to prevent fires, fuel storage tanks were buried underground, but leaking tanks have created water pollution, air pollution and soil contamination problems.

Too often, the redevelopment of a brownfield has been viewed as a local issue. The experience gained from successes in one region may not be widely shared throughout the country.

Recommendations

Much could be achieved if federal-provincial-territorial governments set better examples in cleaning up their own contaminated sites. Failure to do so puts them in a poor moral position to demand better of private industry.

If some additional responsibility for contaminated sites is downloaded from one level of government to another, for example from a province to its municipalities, then sufficient human and financial resources should be transferred as well to ensure that the job is done properly. It is a question of sharing responsibility, not "passing the buck".

A clear system of incentives should be established by all levels of government that favour redeveloping brownfields over other forms of urban infill and over developing rural land near urban areas.

A series of pilot projects for brownfield redevelopment, drawing on the federal infrastructure program, should be pursued in order to create a national focus, to raise the profile of these issues, to help develop procedures, guidelines and protocols that will prevent contamination and will support remediation of brownfields and other contaminated sites, and to establish a process for procedural refinement over time.

Various stakeholders need to act together to redevelop brownfields. To achieve this, stakeholder groups should create informal alliances within provinces and territories. Also, each stakeholder group should develop best practices for dealing with contaminated sites and ensure that the sets of best practices from various interest groups complement, rather than detract from, one another.

First Nations have some brownfields on their urban lands. Due to their deep awareness of their interdependence with the land, they have a particularly strong interest in preventing its contamination because of the effects on their food supply. First Nations could provide leadership by example by practicing sustainable land use on their lands.

9. Government Initiatives and Partnerships

Barriers

Brownfields tend to be viewed as a private sector problem where, with some notable exceptions, government intervenes at a regulatory, not a participatory, level. Little financial or economic incentive is offered to the private sector to redevelop brownfields. As well, few creative solutions have favoured brownfield redevelopment, and taxation policy at national, provincial and municipal levels has provided little encouragement.

Recommendations

The Government of Canada should provide some incentives, such as permitting remediation costs to be deducted from taxes, including brownfield expenses, in a flow-through shares program, and should encourage research into redeveloping brownfields.

Provincial and territorial governments should consider options for joint partnerships between business and government to redevelop brownfields.

Provincial and territorial governments should consider developing innovative concepts, such as

using single-purpose trusts, to clean up brownfields and other contaminated sites.

Provincial and territorial governments should work closely with municipalities in brownfield redevelopment. They may need to give municipalities the planning authority to monitor the use of brownfield sites and to prevent future brownfields. They could allow municipalities to offer property tax incentives for brownfield redevelopment.

Municipalities should be given more responsibility over sites with minor contamination, leaving more seriously contaminated sites to be directly administered by provincial governments.

Benefits of Implementing These Recommendations

Many benefits can be derived from cleaning up brownfields and improving available information on the condition of land. These include:

- renewing urban cores and restoring tax bases,
- reducing the pressures creating urban sprawl,
- reducing public health concerns,
- attracting domestic and foreign investment,
- developing decontamination techniques and technologies with export potential,
- creating jobs,
- preventing future contamination, and
- bringing the location and condition of brownfields to the attention of investors.

The full report provides a more extensive listing of recommendations, actions and benefits, as well as an outline of background issues.

I. *Introduction*



The Challenge

In the past hundred years, as the population of Canada increased sixfold, industrial growth created many contaminated sites. Much of this contamination was inadvertently caused at a time when people were not aware of its consequences. In fact, Canadians still lack a proper information base to define the extent of the problem.

Contaminated sites impose a high cost on Canadians financially and in terms of health. Estimates of clean-up costs range from hundreds of millions to billions of dollars. At the same time, contaminated sites often represent missed economic opportunities. For a variety of reasons, including concern about potential clean-up costs, some landowners have abandoned properties, and potential purchasers have avoided any properties suspected of being contaminated.

It is difficult to place a precise figure on the cost of clean-up. Estimates reported in the media of total costs for Canada range between \$5 billion and \$20 billion, although the basis of these estimates was not provided.¹ In 1989, the Canadian Council of Ministers of the Environment (CCME) estimated that there were approximately 1,000 contaminated sites in Canada and that it would cost \$3 billion to clean them up.² In the 1996 Auditor General of Canada's report, it was estimated that the federal share of environmental costs and liabilities arising from federal contaminated sites might be as much as \$2 billion, excluding the costs of cleaning up radioactive wastes.³ It is reasonable to suggest that provincial and territorial costs and liabilities arising from contaminated sites under their jurisdiction could be considerably higher.

Toronto is a case in point that illustrates the potential benefits of brownfields development. In 1995, the City of Toronto estimated that all its industrial-zoned properties comprised more than 1,000 hectares — about 15 percent of all the assessed commercial-industrial properties in the city. Based on current, effective tax rates (including business assessment) on industrial

lands, the annual local taxes on Toronto's industrial properties amounted to more than \$150 million in 1996.

Many of Toronto's industrial-zoned lands are underutilized and can be redeveloped for higher uses. Potential contamination issues are not the only barriers to such development; the issue of timing is a critical factor affected by market conditions and strength of the overall economy. An estimate of the annual local taxes foregone on the city's underutilized industrial lands is more than \$22 million. Thus, even if only half of the underutilized industrial lands are considered brownfields, a conservative estimate of the taxes currently foregone on brownfields would exceed \$11 million annually.

In 1998, the new Toronto will comprise six former municipalities with an aggregate industrial assessment value about five times larger than the former city unit. The tax revenues across Metro Toronto now foregone on half of the underutilized industrial-zoned land amount to \$55 million annually. At today's effective overall tax rate of about 7.7 percent, this implies foregone property values of more than \$700 million for underutilized industrial-zoned lands.

Many contaminated sites have not been identified; for example, those resulting from leaking underground storage tanks. In a 1994 study done for Environment Canada, it was estimated that the cost of cleaning up spills from these tanks is \$235.2 million dollars per year,⁴ or a total national cost of \$5.9 billion. However, what is the real cost of a leaking underground storage tank when one litre of gasoline can render one million litres of water unfit for use for up to 50 years?⁵

1 Report of the Auditor General of Canada to the House of Commons, Chapter 2: "Environment Canada: Managing the Legacy of Hazardous Wastes" (May 1995), pp. 2-12.

2 Ibid., pp. 2-9

3 Report of the Auditor General of Canada to the House of Commons, Chapter 22: "Federal Contaminated Sites-Management Information on Environmental Costs and Liabilities," (November 1996).

4 Swaigen, John. *Toxic Time Bombs, The Regulation of Canada's Leaking Underground Storage Tanks* (Toronto: Emond Montgomery Publications, 1995), pp. 33 & ff.

5 Ibid., p. xviii.

There are many other costs associated with contaminated sites. There is a disturbing relationship between areas of industrial contamination and incidences of cancer. Contamination causes sites in urban cores to be abandoned or underutilized. This, in turn, encourages cities to extend into previously undeveloped, uncontaminated land, often referred to as greenfields. Municipalities in urban cores lose revenue, raise taxes to cover the shortfall, and drive more people and business away.

The Strategy of the Financial Services Program

Many issues concerning contaminated sites have not been resolved to the extent expected by the business community. In 1995, the National Round Table on the Environment and the Economy (NRTEE) surveyed the financial services industry about issues of greatest concern to them relating to both the environment and the economy. The issues dominating the responses related to contaminated sites. During the life of the Financial Services Program, it became clear that the general business community also shared these concerns.

The NRTEE decided to hold a forum to gauge the state of the debate on a number of issues pertaining to contaminated sites and to generate solutions. It agreed that the Financial Services Program should focus on brownfield redevelopment and improving site-specific data on the environmental condition of land. These are two issues where progress might be made in the short- to medium-term, and which could build momentum and morale without placing undue burdens on government.

The two issues are interrelated. Site-specific information identifies brownfields and other contaminated sites and their condition. Compiling such information defines a situation, supports prevention and solutions, and leads to better management of the land base.

Goal of the Program

When the NRTEE approved the Financial Services Program, it established a Task Force (see page 2) and asked the Chair of the Task Force to:

- examine barriers to brownfield redevelopment and find solutions to overcome them, and
- examine the state of information on the environmental condition of land and make recommendations for improvement.

During the life of the program, Task Force members wrestled with a fundamental question: What can be done to create an atmosphere that will encourage people to invest in redeveloping brownfields?

The Process

The Task Force for the Financial Services Program conducted an open and inclusive process. Multistakeholder meetings were held in Toronto, October 24, 1996; Moncton, October 30, 1996; Vancouver, November 14, 1996; Calgary, February 20, 1997; and Montreal, March 6, 1997. The five meetings were attended by nearly 200 participants (see Appendix II). At each meeting, the Chair of the Task Force asked stakeholders to focus on additional steps they might be able to take on their own initiative, while recognizing that solutions will require the cooperative effort of many groups. The Chair stressed the importance of identifying solutions that did not require more government funding.

The Financial Services Program also benefitted from many partnerships with public-spirited organizations, such as Canada Mortgage and Housing Corporation, the Insurance Council of Canada, Statistics Canada, the Royal Bank of Canada, and others that contributed funding, discussion papers, expert staff, and knowledgeable participants. All these factors contributed to the success of the program.

A number of background papers were circulated

to participants at the multistakeholder meetings. A synopsis of these papers is presented in Part IV of this report.

After completing the five multistakeholder meetings, a draft report was circulated to all participants for comment before presenting it to a plenary meeting of the NRTEE.

Building on the Work of the CCME

From 1990 to 1997, the CCME has been very active on the issue of contaminated sites. Its work has encompassed a range of topics that can be roughly divided into two categories: allocation of liability, and assessment and remediation.

On the question of allocating liability, in 1993, CCME members agreed to 13 principles that govern a consistent approach to managing contaminated sites across Canada (see Appendix I). As with other consensus products developed by the CCME, these principles reflect the current national consensus on the issue; implementation of any measures that flow from them is the responsibility of individual governments. Some provinces have not only applied the principles, but also have introduced a new generation of legislation that clarifies criteria and risks, and, in some cases, provided a number of options for action before solutions are imposed. The public response to these initiatives has been favourable.

Concerning the more technical areas of assessment and remediation, the CCME began by developing interim soil-quality criteria. These interim criteria were established to meet a defined need, and were based on existing soil and water criteria gathered from various jurisdictions. Recognizing the limitations of both the interim guidelines and the criteria-based approach, the CCME has subsequently developed additional products to help assess contaminated sites:

- The CCME *Protocol for the Derivation of*

Environmental and Human Health Soil Quality Guidelines is being used to update the interim criteria. Twenty revised guidelines were developed by May 1997.

- The CCME has developed risk-based approaches for remediation where the situation warrants it. *A Framework for Ecological Risk Assessment: General Guidance* was published in 1996.
- Recognizing that generic criteria should not necessarily be applied across the board, in 1996, the CCME published *A Guidance Manual for Developing Site-Specific Soil Quality Remediation Objectives for Contaminated Sites in Canada*.
- In late 1997, the CCME published a document entitled *Guidance Document on the Management of Contaminated Sites in Canada* summarizing how its products fit together and can be used for assessment and remediation.

CCME products reflect the point at which national consensus has been achieved. Individual governments may want to move further in one direction or another as required by their own situations. As criteria-based guidelines, CCME products can be used as a starting point in developing jurisdiction-specific responses to contaminated site issues.

II. Overview of Brownfield Redevelopment and Improving Site-Specific Data on the Environmental Condition of Land



Brownfield Redevelopment in Canada

There are thousands of contaminated sites across Canada. Many of these represent valuable under-used resources. Laws in Canada governing contaminated sites are in transition, which adds to the legal uncertainty. The right legal framework and the use of some new insurance products can create a climate that encourages investment, remediation, and the productive use of some of this land by the private sector. This is particularly appealing when public funds are scarce.

Brownfields, a subset of contaminated sites, can be restored economically for various productive uses. The following working definition of brownfield sites was used in the multistakeholder meetings held for the program:

Brownfield sites are abandoned or under-used properties where past actions have caused real or suspected environmental contamination.

Although they are classified as a subset of contaminated sites, they offer good potential for other uses and usually provide economically viable business opportunities. They are located primarily in established urban areas where existing municipal services are readily available or along transportation corridors. They may include, but are not limited to: decommissioned refineries, railway yards, dilapidated warehouses, abandoned gas stations, former dry cleaners, and other commercial properties where toxic substances may have been stored or used.

In the discussion paper prepared for the program, *The Financial Services Sector and Brownfield Redevelopment*, the authors defined brownfield redevelopment as "...development on an underutilized site that exhibits economically remediable contamination of its soils and groundwater and is located in a setting where

The Report of the Greater Toronto Area Task Force, released in January 1996, has a section on brownfield sites. Its four recommendations are directly relevant to the work of the Financial Services Program:

- The Ministry of Environment and Energy should establish standards appropriate for intended use in the clean-up of brownfield sites.
- The province (and the federal government) should enact legislation to address the issues of liability of lenders, receivers, and trustees regarding brownfield site redevelopment.
- The Greater Toronto Council should establish a strategic, comprehensive regeneration program to redevelop brownfield sites.
- Information on industrial and formerly industrial lands within the region should be collected in a Greater Toronto site registry to facilitate brownfield site redevelopment.

existing municipal services are readily available." A technical definition of a brownfield is needed, as well as a working definition. More conclusive scientific data will make this possible.

Redevelopment of brownfields seems to be paralyzed due to a combination of factors: a lack of site-specific information on the environmental condition of land, inappropriate laws, legal uncertainty regarding who pays for the clean-up, scientific and legal uncertainty about appropriate clean-up standards, and the absence of mechanisms that foster the alliances among stakeholders necessary to make progress on this issue.

The extent of the opportunities offered by brownfield sites is hard to estimate. One reason is the lack of a database on brownfield sites; another is the ongoing concern on how to define and classify brownfield sites.

Municipalities are often reluctant to designate sites as brownfields because of possible liabilities and because of possible impacts on surrounding land values. Based on previous work sponsored by the Canadian Council of Ministers of the Environment (CCME), the number of brownfields across Canada has been estimated to be greater than 2,900, including some in rural areas.

The concept of brownfields emerged in the United States during the last decade in initiatives such as the Chicago Brownfields Forum. Brownfield redevelopment has been given a high profile by the Environmental Protection Agency and by the Clinton Administration. In his State of the Union Address given on February 5, 1997, President Bill Clinton said: "We should restore contaminated urban land and buildings to productive use." The Clinton Administration has launched a Brownfields National Partnership Action Agenda, which includes more than 100 commitments from more than 25 organizations and more than 15 federal agencies. These commitments represent a \$300-million investment in communities with brownfields by the federal government and an additional \$165 million in loan guarantees. The

resulting action will help clean up and redevelop up to 5,000 properties, leveraging from \$5 billion up to \$28 billion in private investment, supporting 196,000 jobs, protecting up to 34,000 acres of greenfields (undeveloped land on the outskirts of urban areas), and improving the quality of life for as many as 18 million Americans living near brownfields. As part of the program, the Administration will create 10 brownfield showcase communities, that will illustrate successful collaboration on brownfield-related activities.

Canadian governments have dealt with some aspects of brownfields, although this has been on a local or regional basis, rather than nationally. However, the pace of this activity may be quickening. For example, Montreal has a long history of industrial activity and many brownfield sites. The governments of Canada and Quebec have seized opportunities to work with Montreal to restore contaminated land. In March 1997, the Federal Office of Regional Development, the National Research Council and the City of Montreal created a centre of excellence for the restoration of contaminated sites and related environmental research. It will set up partnerships between the private and the public sectors to develop technologies for remediating contaminated sites. In May 1997, the Government of Quebec and the City of Montreal pledged \$30 million each to restore contaminated sites. This work will provide models and benchmarks for future brownfield redevelopment.

Improving Site-Specific Data on the Environmental Condition of Land

There are hundreds of environment-related databases across the country, and many of them deal with land. Most of the databases, however, are not linked to one another. It is exceedingly difficult even for landowners to find out what information is available on the environmental condition of their properties.

Comprehensive, consistent information on the number and characteristics of contaminated sites in Canada is not available. As well, there is little information available in Canada under the heading of brownfield sites. However, some work has been done for contaminated sites, which includes brownfields. A national effort to address issues concerning contaminated sites was approved by the CCME in 1989 when it established the National Contaminated Sites Remediation Program, which ended in 1995.

Some ongoing developments have the potential to improve the quality and accessibility of site-specific data on the environmental condition of land. Land titles and land registry systems across the country have been, or are, in the process of being digitized, which should make cross-referencing among databases more feasible. (Appendix III describes British Columbia's new site registry system established under the *Waste Management Act* proclaimed on April 1, 1997.) As well, work on geographic information systems is under way. This period of transition from paper to electronic information provides opportunities to create common links among land-related databases, such as property identification numbers used by land title systems, longitude and latitude used by geographic information systems, and streets and addresses used by assessment rolls.

Some private companies are nearly ready to market databases containing site-specific information on the environmental condition of land. Some municipalities, such as Metropolitan Toronto and Ottawa-Carleton, have begun assembling similar information. The City of Calgary has made great strides by developing its Environmental Sites Information Management Systems (ESIMS), which is a historical land-use database. At present, the database is operating as a pilot project; however, the full-scale ESIMS will be implemented by the spring of 1998.

III. Benefits of Brownfield Redevelopment and Improving Site-Specific Data on the Environmental Condition of Land



Benefits of Brownfield Redevelopment

The benefits of brownfield redevelopment have been documented in many reports generated by a number of jurisdictions in Canada and abroad. In Canada, the 1996 Report of the Greater Toronto Area Task Force (known as the Golden Report) quantified some of the benefits for the economy and for quality of life of a more compact urban form, which would be supported by brownfield redevelopment.⁶ The following benefits were considered during the multistakeholder meetings held by the Financial Services Program:

⁶ *Greater Toronto*, Report of the Greater Toronto Area Task Force (Dr. Anne Golden, Chair) (Toronto: Queen's Printer for Ontario, 1996).

- The productive use of brownfields will help renew downtown cores and restore the tax base of inner cities. This will relieve pressures on urban sprawl, contributing to cost efficiencies in developing, providing, and administrating ongoing services.
- Cleaning up these sites will improve the condition of the land and public health.
- The improved appearance of city centres will attract more domestic and foreign investment.
- Pilot projects for brownfield redevelopment can provide data to form the basis for refining laws and processes in order to produce a framework that can encourage the clean-up and use of other brownfields and contaminated sites, and can show what each stakeholder can contribute to the process.

Benefits of Improving Site-Specific Data on the Environmental Condition of Land

Well-defined, organized information is the foundation for managing the land base, and is a basic requirement for making government policy. At present, governments in Canada require companies to inform them, through mechanisms such as the National Pollution Release Inventory, about chemical pollution released into the air and water. There is less emphasis on gathering information on pollution of land.

As mentioned in the Golden Report, "...knowledge is an essential ingredient for effectively managing risk and uncertainties. Sharing specific information about a site reduces the inherent uncertainty in its redevelopment."⁷

The following benefits were considered by the Task Force participants:

- Better site-specific data on the environmental condition of land will encourage the preferred uses of various categories of land that are consistent with municipal plans.
- The public disclosure of this information will identify and define opportunities and challenges, for example by bringing the location and condition of brownfields to the attention of potential investors.
- Better site-specific data will enhance public protection and confidence, especially if landowners are required to disclose conditions that might pose a threat to public health.
- A transparent system of information sharing will help prevent future land contamination.
- Reliable information will foster more certainty and reduce delays related to land transactions.
- This information can be used to help establish criteria for the cleanliness of land. Feedback from the marketplace will determine whether these criteria are practical, and could lead to the ongoing refinement of the criteria.

⁷ *Greater Toronto*, Report of the Greater Toronto Area Task Force (Dr. Anne Golden, Chair) (Toronto: Queen's Printer for Ontario, 1996), p. 136.

IV. A Synopsis of the Background Papers⁸



The Task Force of the Financial Services Program recognized the need to consolidate information on brownfield redevelopment and other contaminated sites, and on improving site-specific information on the environmental condition of land. A number of coincidences considerably benefitted the program.

⁸ The papers are available for purchase from Renouf Publishing, 5369 Canotek Road, Ottawa, Ontario K1J 9J3; Tel: (613) 745-2665; Fax: (613) 745-7660; and, 12 Adelaide Street West, Toronto, Ontario M5H 1L6; Tel: (416) 363-3171; Fax: (416) 363-5963.

Sheldon McLeod was available to write the introductory paper: *Contaminated Site Issues in Canada*. As Director, Strategic Planning at the CCME from April 1992 to March 1996, Mr. McLeod had become deeply involved in contaminated sites issues. His paper bridges the groundbreaking work of the CCME and the Financial Services Program.

Canada Mortgage and Housing Corporation (CMHC) had commissioned a paper on *Removing Barriers to the Redevelopment of Contaminated Sites for Housing*, which was completed in August 1996. CMHC kindly contributed this paper as a background document to the program and then funded the preparation of a second paper entitled The Financial Services Sector and Brownfield Redevelopment.

Michael Bordt and Jeff Fritzsche wrote *Improving Site-Specific Data on the Environmental Condition of Land*. Michael Bordt is Chief, Environmental Information and Spatial Accounts, in the National Accounts and Environment Division of Statistics Canada. Mr. Bordt and his colleague, Jeff Fritzsche, an expert information manager, explain that new information technologies will facilitate a much better understanding of the effects of human activities on the environment and on public health. Statistics Canada made a major contribution to the success of the program by donating this paper.

Sheldon McLeod's paper introduces the issues and analyzes them. It sets the stage for the Program, by recognizing the conclusions and recommendations of the participants attending the stakeholder meetings and the Task Force meetings. The issues covered in the paper include:

- Information needs: The nature and size of Canada's problems related to contaminated sites are not well-known.
- The allocation of liability: Regulatory inconsistency among the provinces and territories in the way liability is allocated emerges as a significant concern.

• How clean is clean? Answering this question is important for initially designating a site, for setting clean-up priorities among several sites, and for determining what constitutes a clean site.

• Funding orphan site clean-up: Canada has a number of orphan contaminated sites for which no responsible party can be found. There is no dependable mechanism in Canada that ensures such sites are cleaned up or that allocates clean-up costs.

• Properties and operations in bankruptcy: A number of amendments, containing environmental provisions, to the *Bankruptcy and Insolvency Act* were given royal assent the week of April 21, 1997. The provisions will take effect in early autumn of 1997. While the amendments have fairly broad support, not all stakeholders or governments are in agreement with them.

• Brownfield sites.

• The role of insurance.

• The prevention of future contamination: Pollution prevention is gaining momentum in Canada, but there are pockets of inertia both in business and in government.

• Public involvement: Because the public is relatively poorly informed about contaminated sites, a gap has developed, and appears to be widening, between technical experts and the public.

The Financial Services Sector and Brownfield Redevelopment, prepared by M.M. Dillon Limited, GlobalRisk Management Corporation and Tecsuit, examines how the financial services sector (banks, trust companies, insurance industry and investment brokers) can facilitate brownfield redevelopment, and examines the opportunities and challenges inherent in redevelopment.

The authors note that the financial services sector is only one of the stakeholders interested in brownfield redevelopment. They suggest that an integrated approach that includes partnerships

among local and provincial governments, developers, and the public is needed to remove barriers and ensure site clean-up. Such inclusive strategies have been highly successful in other jurisdictions.

They conclude by highlighting some issues that form a common thread through the successful experiences of brownfield redevelopment in other jurisdictions:

- Legislative reform on environmental liability, in order to provide a consistent national framework;
- Innovative tax incentive programs;
- A philosophical shift by the financial services sector to go beyond its traditional model of profit-based behaviour and actively embrace this issue of public concern;
- An initiative by the financial services sector to become better educated about environmental risk;
- An initiative by the insurance industry to be more innovative in creating new insurance products; and
- An initiative by lenders to use available insurance and other private sector risk-transfer mechanisms more broadly.

To the benefit of all parties involved in a contaminated property transaction, an environmental insurance program can include:

- Clean-up Cost Cap Insurance to "cap" projected costs at expected value.
- An Owner-Controlled Insurance Program or Contractor-Controlled Insurance Program to manage or control present and future insurance liabilities arising from project activities.
- Pollution Legal Liability to protect the insured against claims arising from pollution conditions within, on, or under covered locations or emanating from covered locations. Pollution conditions can be unknown and pre-existing or the result of ongoing operations.

Removing Barriers to the Redevelopment of Contaminated Sites for Housing was prepared by DELCAN in association with Golder Associates and McCarthy Tétrault. The purpose of the study was to suggest and identify research that would help remove or relax barriers to building housing on contaminated sites. This information could, in turn, be used by all levels of government and participants in the land development and planning process. The authors examine three major issues, namely:

- The factors that are currently discouraging redevelopment of contaminated sites in Canada;
- Initiatives in various Canadian and American jurisdictions addressing these problems; and
- Areas where research is required to address information gaps.

The authors note that:

- Information on the number of contaminated sites in Canada is poor. However, it is clear that contaminated sites represent a large supply of land that has potential for urban housing development.
- Barriers to housing development on contaminated sites can be grouped into six issue groups: regulatory, technical-scientific, legal-liability, financial, urban planning, and communications.
- By far the most prominent issue is the desire of all participants to reduce or eliminate their exposure to liability to pay for site clean-up or the effects of contamination.

The authors conclude that considerable work needs to be done across Canada to create a contemporary, consistent approach to building housing on contaminated lands. It sets out 22 best practices, which, in combination with the 13 CCME principles, can be incorporated into any such approach, and recommends that "contaminated site redevelopment action plans" should be developed at either the federal or provincial levels or at both if efforts are coordinated.

Improving Site-Specific Data on the Environmental Condition of Land investigates the sources of information and possible strategies that would contribute to improving site-specific information for Canadians, including business, governments, non-governmental organizations, academic institutions, and the general public.

This paper surveys existing databases in the federal, provincial and territorial governments, as well as work done in the private sector, and in non-governmental and intergovernmental organizations. It sets out five strategies. The first four require some start-up funding from the public or private sectors, or both:

- Regional Comprehensive Prototype: This strategy would develop a working prototype for one small province or large municipality. Background data would be collected, harmonized, and integrated into an image map graphic on the Internet.
- Provincial Registry with Mandatory Site Assessments: This would involve strengthening the registry requirements in one of the provinces with an existing contaminated site registry that would include a broader variety of sites.
- National Municipal Registry: This approach would support creating municipal contaminated site reports. There are over 5,000 urban and rural municipalities in Canada.
- National Site Assessment Registry: This strategy would create an ongoing national registry of site assessments for those provinces with mandatory site assessment requirements. The registry would be augmented by secondary data compilation for provinces without these requirements.
- Independent National Potentially Contaminated Site Inventory: This self-funding program would assemble high-priority data for selected urban areas.

All the discussion papers affirmed the need for better information on the environmental condition of land. Because the multistakeholder meetings only lasted a day and the volume of material was so large, some of the proposals were not sufficiently considered, for example the five options put forward in the paper on improving site-specific data. These gaps need to be addressed.

In early 1997, the Canadian Home Builders' Association prepared a report entitled *Position Paper on Government Policies, Procedures and Criteria for the Clean-up of Contaminated Sites*. Although not included as a background document for the Financial Services Program, the authors present a number of good proposals, among them a consensus-building process where all interested parties could participate and information could be brought to the table in an orderly fashion. It would encourage creating and harmonizing reasonable standards for redeveloping brownfields and other contaminated sites across Canada. As an added benefit, site-specific data on lands involved in the process would be gathered, and practical examples of decisions regarding brownfields and other contaminated sites would be provided as a guide for others (see Appendix IV for a complete description of the proposal).

V. *Results of the NRTEE's National Multistakeholder Consultations*



Brownfield Redevelopment

Areas of Consensus

Reading consensus is always subjective. During the five multistakeholder meetings, participants were not expressly asked whether there was consensus on each of the following points. However, the following points were made frequently during the meetings and were not opposed.

Brownfields represent an important underutilized resource. A report prepared for the program estimates that there are several thousand brownfield sites in Canada. These are potentially valuable assets.

Redeveloping brownfields requires a comprehensive and concerted approach by many stakeholders. To remove barriers to redevelopment (such as unclear laws, uncertain science, red tape, and absence of finance), stakeholders need to work together, not separately. There are potential, untapped synergies among the various stakeholders.

Uncertainty hampers brownfield redevelopment. Clarity in liability laws, including joint and several liability, unambiguous scientific standards, and a system for accrediting environmental assessors, would encourage brownfield redevelopment. As well, interjurisdictional harmonization and simplification of laws and standards pertaining to contaminated sites would reduce costs and confusion.

Solutions require public participation and education. Participation builds trust, and the public needs to be involved in brownfield redevelopment projects. The public participation process should encourage constructive rather than confrontational exchanges. Members of the public have an interest in the effects of a project on their property values and health, and in the technical standards applied for their protection. They need to understand that it is not necessary in every case to remove all contamination in order to protect public health and safety. Environmental groups can make a significant contribution to public awareness. The mechanism for public involvement should vary depending on the issue under consideration. Broad public hearings can generate anxiety, and should be reserved for more complex issues. Other issues might be resolved by a simple mediation system.

Stakeholders need a fuller understanding of brownfields. Just as the public needs to be educated on the diverse aspects of brownfield redevelopment, so too do many stakeholders. These

aspects include location of brownfields, types of contamination, assessment and management of risks associated with site remediation and future use, and redevelopment strategies and processes. Stakeholders also need to appreciate the opportunities, constraints, and costs placed on other stakeholders.

A variety of initiatives could encourage redeveloping brownfields as well as reducing or eliminating the risks posed by contamination.

Reducing crime levels in the area, upgrading bordering properties, and cutting subsidies that favour developing rural land bordering urban areas (greenfields) over brownfields are steps that can encourage brownfield redevelopment. Opportunities to develop brownfields will vary according to real estate demands. Where land is scarce and demand is high, more brownfields are redeveloped, for example the former EXPO '86 site in Vancouver.

Some First Nations' lands, both urban and rural, include brownfield sites, which were contaminated by others. The non-First Nation community cannot evade these responsibilities. As First Nations take more control of their own governance, they may be expected to take more responsibility for dealing with new contamination on their land, both as regulators and owners. Under self-government, each band will be able to develop its own standards and assume greater control over the future of its lands. It is crucial, however, that these standards are consistent with municipal, provincial and federal standards and regulations.

Areas of Disagreement

Who pays for cleaning up contaminated sites? The key issue is between governments and lenders and relates to assigning legal liability for cleaning up contaminated sites. Because brownfields are, by definition, economically remediable, in most cases the person wishing to use the land will clean it to the standards required for its intended use, whether residential, commercial or industrial. However, the distinction between brownfields and other contaminated sites is not

always clear. The fact that the land is viewed as contaminated will discourage some lenders and insurers, because they may fear a perceived risk, rather than the actual risk.

- Although the general polluter-pays principle applies, the polluter cannot always be found and may not be solvent. To reduce costs to the public, governments may cast a broad net by holding jointly and severally liable those companies or persons associated with the polluter. With joint and several liability, each of the designated companies or persons may be held liable for part or all of the clean-up costs. Faced with this possibility, companies that are financially strong, such as lenders and insurers, may be unwilling to have anything to do with contaminated sites. There will be no progress until governments explicitly recognize that the act of lending, in itself, should not create a liability. Yet even the CCME continues to reserve the use of joint and several liability, albeit only as a last resort. Some financial services companies do not believe that the concept of joint and several liability has a place in brownfield redevelopment.
- An alternative concept to joint and several liability is that of orphan contaminated sites and orphan shares, where liability is divided into fixed shares among the parties responsible. However, some parties cannot be found or are unable to pay. This creates a difficult situation where governments may have to decide whether other private companies, involved to varying degrees in the business of the polluter, should pay, or whether the costs should be assumed by government, or by both. Funding mechanisms are needed.
- To recover costs from a polluter, some governments have passed retroactive laws that hold polluters liable for acts causing pollution in the past, even though these acts were

within the law at that time. In legal theory, retroactive law is bad law. Using retroactive legislation can cause great uncertainty, especially for those industries that cause some pollution during the normal course of their operations.

- It is a contentious issue for governments to provide a certificate of compliance when a clean-up has been carried out as required by law. Governments are reluctant to issue these certificates because they might then assume potential liability. The Canadian Home Builders' Association recommends that a current or a previous owner, who is a builder or developer, and who actively worked to remediate a site to the then-current requirements, should be exempted from all liability for future clean-up unless the initial clean-up was negligent.⁹

How clean is clean? It depends partly on the intended use of the property. Residential property requires high standards and levels of safety, which can be less rigorous for commercial and industrial uses.

- Developers and other business people favour risk assessment and risk management, which involves tailoring standards to the requirements of specific sites, rather than applying generic criteria on all properties. Generic criteria are often very conservative and can hinder redeveloping brownfields and other contaminated sites. Some environmental groups argue that all contamination must be removed, because residual contamination on a property requires long-term management and the long-term consequences of this management may not be known.
- Scientists do not always agree among themselves on the appropriate standards. Some jurisdictions lack the will or the human and financial resources to resolve this issue.

⁹ For the complete recommendations, please see: Canadian Home Builders' Association: *Position Paper on Government Policies, Procedures and Criteria for the Cleanup of Contaminated Sites*. Revised 1996. p. iii.

The downloading of administrative responsibility for contaminated sites from the provinces to municipalities without additional financial or human resources causes concern. The Metro-Area Municipal Working Group on Redevelopment of Contaminated Sites (which comprises staff from the planning departments of the six area municipalities and Metro Toronto) has been addressing measures to encourage redeveloping contaminated sites. The group has identified barriers to municipal action that stem from three fundamental, related issues:

- Apprehension about municipal exposure to liability through the development approval process;
- Lack of technical expertise and experience to adequately assess soil reports and remediation plans; and
- Inconsistent standards and practices from one municipality to another.

Improving Site-Specific Data on the Environmental Condition of Land

Area of Consensus

More accessible and improved site-specific information on the environmental condition of land is required in order to manage the Canadian land base in a more responsible and sustainable manner.

Areas of Disagreement

While there was consensus that good site-specific information is required to manage the land base, there was little consensus on what needs to be done and how to do it. The issues are not always clear cut, and the necessary thinking to identify common ground has not been done by the various stakeholders. This subject has not been given the attention it deserves.

Although there were no clear sectoral positions on the following issues, opinion diverged considerably, which clearly indicated that these issues require further study to reach consensus:

- *What is the demand for improving site-specific data on the environmental condition of land?* The demand is not uniform. The public sector needs both site-specific and broad-based information to manage land resources on a sustainable basis. This information should be public. Many private-sector stakeholders, such as large landowners and developers, require in-depth knowledge of their own land. To obtain this, they need to undertake environmental assessments to ensure that the information is reliable and up-to-date. Small landowners may not have the resources to undertake environmental assessments, and would like to be able to refer to public information on the environmental conditions affecting their land.
- *Should site-specific information on the environmental condition of land be compiled by the private sector or by governments?* Both private and public sectors will need to collaborate on this issue. Governments gather some information relating to the environmental condition of land, but the information is not centralized. Some private groups are building databases to meet the demand of niche markets for site-specific information on environmental condition. These databases are nearly ready to be marketed. *If site-specific information is maintained on a public database and is inaccurate, are governments ready to deal with the lawsuits that might ensue?*
- *What is the potential of new technologies to improve site-specific data on the environmental condition of land, and what is the cost?* Geographic information systems being developed in many regions of Canada could potentially connect and integrate data from many different sources. Land registry and land title systems are being digitized and made accessible by computer across the

country. These developments offer opportunities to gather information much more efficiently.

- *Should site-specific information on the environmental condition of land be released to the public?* As a general principle, most stakeholders considered that the public should be informed about the environmental condition of sites, especially those located where they live. Their involvement may not be essential in commercial or industrial developments however, this issue was not resolved. Some participants were concerned that the public might misunderstand information on land contamination, which could cause undue alarm over low levels of contamination that do not pose a threat to humans. Others added that the public needs more education on contaminated sites. Opinions also differed on when the public should be involved in a project.

Geographic differences have a major impact on attitudes. For example, New Brunswick, which obtains most of its drinking water from groundwater, has taken stringent measures to prevent soil contamination, and is leading the country in identifying and monitoring the condition of underground storage tanks. British Columbia obtains most of its drinking water from surface water, so the state of groundwater is not as critical an issue as it is in New Brunswick.

Montreal and Toronto, large, long-established industrial regions, contain a significant number of brownfields and other contaminated sites. While market demand is sufficient to encourage some redevelopment in Toronto, Montreal presents other difficulties. The cost of restoring contaminated sites in Montreal ranges from \$35 to \$400 per cubic metre; however, the market value of the sites varies from \$35 to \$60 per square metre.

Regional Variations — Brownfield Redevelopment

Four main factors contribute to regional variations in brownfield redevelopment: industrial history, geography, differing attitudes of governments, and market demand for land.

The strong demand for land in Vancouver has stimulated redevelopment of many brownfields. The EXPO '86 site and the former Canadian Pacific dock site are major examples.

The Waterfront Regeneration Trust was established as a provincial agency in June 1992 by an act of the Ontario legislature. The Trust has been building on the work of the Royal Commission on the Future of the Toronto Waterfront by working in co-operation with all stakeholders to implement the Commission's recommendations. The scope of its work includes much of the north shore of Lake Ontario, and deals with policy issues and with specific site remediation.

In March 1997, the Federal Office of Regional Development, the National Research Council and the City of Montreal created a centre of excellence for the restoration of contaminated sites and related environmental research. It will establish partnerships between the private and public sectors to develop technologies for remediating contaminated sites. In May 1997, the Government of Quebec and the City of Montreal pledged \$30 million each to restore contaminated sites. This work will create models and benchmarks for future brownfield redevelopment.

In certain regional economies, such as Alberta, British Columbia and, more recently, Ontario, governments rely more on the private sector to initiate brownfield redevelopment. In Quebec, much more emphasis is placed on the role of government; thus governments at all levels in Quebec have begun to respond creatively to encourage brownfield redevelopment.

Regional Variations — Improving Site-Specific Data on the Environmental Condition of Land

A survey of federal, provincial and territorial governments revealed a variety of approaches to improving site-specific data on the environmental condition of land. British Columbia and New Brunswick seem to be in the lead.

The **Canadian Urban Institute**, based in Toronto, has published *Historical Land Use Inventories: A Guide for Ontario Municipalities*, which outlines the key steps required to define the scope of a historical land-use inventory. Municipalities both outside and inside Ontario will benefit from this document.

In New Brunswick, which is highly dependent on groundwater, the Geographic Information Corporation has established a Real Property Information Internet Service consisting of the assessment roll, which contains information about the use and value of land; the parcel index, which provides information about land ownership, area and references to registered documents and plans; and a property map, which geographically displays all land parcels in the province. The Corporation is now cross-referencing this system to some land-related environmental databases.

The *Waste Management Amendment Act* of British Columbia was proclaimed on April 1, 1997, and British Columbia has established a registry system for contaminated sites (see Appendix III).

VI. *Suggestions from Stakeholders*



This section reflects the ideas raised by participants during the multistakeholder meetings. Although they are not formal recommendations, these ideas form a record of the participants' constructive suggestions.

Brownfield Redevelopment

Steps for All Stakeholders

To successfully remediate brownfields, stakeholders need to work together to create comprehensive solutions. To do this, the various stakeholders must understand what motivates each group. For example, regulators need to acknowledge some of the burdens placed on the entrepreneur, such as the cost of taxes and of carrying land that cannot be developed because of contamination.

As part of a comprehensive, concerted approach, all stakeholders should develop and evaluate options for private and public sector alliances to promote investment in brownfields and participate in a marketing campaign dealing with brownfields. This involves identifying the sites, the condition of the land, some of the benefits of each location, available governmental incentives, insurance options, and some sources of private investment. Various levels of government with brownfield sites could accept bids for their redevelopment. This might result in some “cherry picking” on the part of the private sector, leading to redeveloping many of the sites and removing the stigma of contamination from surrounding areas, while leaving those sites with more serious problems to other measures.

All stakeholders should support developing best practices for brownfield redevelopment within their respective groups. Best practices establish benchmarks to which all stakeholders can aspire. Stakeholders should also ensure that the best practices of the various groups are complementary. Regulators can support these standards, for example by recognizing adherence to best practices as evidence of due diligence.¹⁰

All stakeholders can reduce uncertainty by dealing with reliable assessors and licensed

professionals and consultants, and by urging that national standards for their professional certification are established as soon as possible. Assessors need this certification to be able to say that they are qualified. An initiative is under way to introduce this type of accreditation by 1998.

All stakeholders should collaborate on a process to clarify and harmonize standards for cleaning up contaminated sites. The Canadian Home Builders’ Association (see Appendix IV) suggests a process similar to the one prescribed in the National Building and Fire Codes, and supported by a secretariat in the National Research Council. A coordinating governmental group could develop standards to be considered at a multistakeholder meeting.

Steps by the Financial Services Industry

Financial services companies should emphasize programs that educate their employees on how to recognize the potential business opportunities available in brownfield redevelopment. Lenders and insurers need to be able to define the level of assessment that will meet their needs, and to learn more about the technical aspects of assessment for risk management.

Property and casualty insurers should continue to develop and market insurance products tailored to brownfield redevelopment, such as the clean-up cost cap, property transfer insurance, and coverage for environmental assessors. However, it is likely that insurance products will remain limited until the laws are clarified.

Mortgage insurers should develop their ability to define the costs and liabilities associated with brownfield redevelopment, including the effects of a project on human living conditions. Given the nature of their business, they usually take a long-term perspective.

¹⁰ For a useful reference on best practices, see DELCAN in association with Golder Associates and McCarthy Tétrault, “Best Practices and Initiatives for Removing Barriers,” in *Removing Barriers to the Redevelopment of Contaminated Sites for Housing* (Ottawa: Canada Housing and Mortgage Corporation, August 1996).

Venture capitalists should put together real estate projects, based on brownfields, that could attract speculative capital.

Entrepreneurs and investors should seek partnerships for brownfield redevelopment with developers and environmental consultants who have solid scientific backgrounds. An alliance of such disciplines would help entrepreneurs distinguish between perceived and actual risk.

Lenders need to consider how a site-specific assessment of risk, and the management of risk based on the intended use of a site, might change the way they respond to proposals for brownfield redevelopment.

Lenders and property and casualty insurers need to establish conditions for providing clients with insurance and funds for brownfield developments. They should continue to ask for clarification of the laws governing liability, and for inspections by licensed or certified environmental assessors.

Investment dealers should develop specific financial instruments to help municipalities and other levels of government to fund clean-ups.

Steps by Industry in General

Industry should continue to take a proactive role in preventing new brownfield sites, for example by introducing technological changes, undertaking ongoing clean-up, and voluntarily and routinely reporting on the environmental condition of land used for industrial purposes.

As part of a comprehensive, concerted approach, business should work with municipalities to develop a process that includes public and environmental non-governmental organizations (ENGOs) at the appropriate point in developing a project. This involvement may not always be at the beginning. Business also needs to acknowledge the connection between revising standards and public involvement. For example, if developers would like public officials to reconsider standards, this will entail more public involvement. Businesses must expand their abilities to communicate with the

public in order to build trust. Success depends on the openness of companies and on the transparency of the process.

Those who support redeveloping brownfield sites should inform themselves about risk-reduction strategies, such as the new insurance products, and *about funding, possibly, a municipality, an ENGO, or local community representatives to educate the public on brownfield issues, and to enable them to undertake an independent site review.*

Steps by ENGOs

Environmental groups should use their role as watchdogs of government and industry to create awareness of brownfield issues and to improve site-specific information on the environmental condition of land. They can popularize the issues and help put the risks into perspective. ENGOs, as much as any other sector, have an interest in ensuring that sites do not become orphans. They recognize that brownfield redevelopment reduces the demand for greenfields. ENGOs also play an important role in informing their constituencies about the advantages of allowing the private sector and government to resolve the paralysis affecting the redevelopment of brownfields. Many participants at the multi-stakeholder meetings felt that increasing public awareness concerning the complex legal and financial factors relating to brownfields would result in more public support for efforts by the private sector and governments to redevelop some of these sites.

ENGOs should help develop a process model, a review of site-specific risk management techniques, a determination of procedures and criteria for risk assessment, and an accounting model for doing a full-cost analysis of brownfields.

ENGOs should become involved in specific projects at the community level. Often people living in communities or neighbourhoods near brownfields have not been able to become well-informed about these issues, and ENGOs might have a role in advising them.

Steps by Professionals

Environmental assessors should continue their rapid progress toward establishing credible standards for practitioners.

Academics need to place more emphasis on research and development related to site contamination and remediation. Other stakeholders should advise academics if they would be willing to fund such research.

Steps by First Nations

The CCME and Department of Indian Affairs and Northern Development should work with First Nations to resolve issues pertaining to contaminated sites, such as the rules applicable to reserves; managing the transition to self-government; setting standards on reserves that protect people, animals, water and other natural features; and ways to prevent pollution produced beyond the boundaries of First Nations from contaminating Native lands.

First Nations should, as they acquire a greater degree of self-government, consider environmental liability schemes that clearly establish a polluter-pay principle, and implement clear rules indicating how polluters — whether the Government of Canada, private individuals or governments of First Nations — would be responsible for remediation.

Steps by Municipalities

The following ideas surfaced during the multi-stakeholder meetings held for the program. In some cases, the ability of municipalities to take these actions depends upon the authority given to them by provincial governments. Where this authority has not been granted, it should be, as should the transfer of human and financial resources.

Municipalities need to create clear policies on remediating contaminated land and spearhead efforts to *bring together stakeholders for brownfield redevelopment*. Municipal governments should integrate land-use planning and approval processes as their contribution to a comprehensive, concerted approach for redeveloping

In Quebec, municipalities already have some authority to plan for brownfield redevelopment, using their zoning powers. What they do not have is the power to refuse a permit application which conforms to zoning regulations in order to take possession of land, or to build on or develop it, for the sole reason that the land is contaminated. A debate is under way regarding the transfer of this power from the provincial government to the municipalities.

brownfields. For consistency, municipalities should apply provincial standards rather than create their own.

Municipalities should develop clear systems for public participation. Municipalities are close to the public and should take a leading role in education. It is important that the public be prepared to view information on contaminated sites objectively to avoid unjustifiable alarm.

Municipalities, supported by their respective provincial governments, and property and casualty insurance companies should work together to develop insurance products for municipal initiatives dealing with brownfields.

Municipalities, supported by their respective provincial governments, should consider the following direct incentives:

- Encourage proponents of brownfield redevelopment to start with the least contaminated portions of a brownfield, using funds from the benefits reaped to clean up the more seriously contaminated portions.
- Consider other instruments such as rezoning, upzoning, downzoning or increasing density levels to promote investment, and adjusting property values to promote cleanup. Also, infrastructure incentives could be offered to developers.
- Offer policy incentives for brownfield redevelopment in the official community plan.
- Ask their respective provincial governments, where assessment is a provincial responsibility, to freeze the land assessment, in

which case municipalities and provinces could forgive some taxation for the sake of brownfield redevelopment, future taxes, and jobs. The incentive might be zero assessment during the redevelopment period.

- Contribute a portion of the taxes gained from brownfield redevelopment toward further brownfield redevelopment.

Steps by Provincial and Territorial Governments

Provincial and territorial governments should establish a cross-disciplinary group within their respective jurisdictions or regions to advise them on brownfield redevelopment. Each member should recognize and understand the motives of the other stakeholders.

Provincial and territorial governments should promote partnerships between business and government to redevelop brownfields.

Cooperation of this sort has produced some economically viable projects in Canada, for example the New Westminster waterfront development, which brought many benefits to the community.

Provincial and territorial governments should develop innovative concepts using trusts to clean up brownfields and other contaminated sites. For example, Quebec has had some success using trusts. In 1991, a petrochemical company, which owned an old refinery in the east end of Montreal, closed down because of financial difficulties and soon moved into bankruptcy.

However, because of the potential environmental liabilities, the banking syndicate holding the company's assets as collateral did not assume the assets that secured their respective loans, resulting in a cost to them of nearly \$50 million. The Government of Quebec petitioned the court for a receiving order against the company. Once the receiving order had been made, a trustee was appointed. Even though the trustee was faced with urgent environmental problems requiring decontamination, he did not have sufficient funds to proceed with decontamination. The trustee, however, used the proceeds from the

sale of the inventories to secure the plant. In the event that the trustee in bankruptcy could not find a buyer, under the Quebec Civil Code, the Government of Quebec would have become the owner of the property. An American group made a proposal to buy the plant, but they did not want to be liable for past contamination. The following formula was developed:

The land was sold to a trust for one dollar. The American group purchased the industrial installation and leased the land from the trust, signing a renewable 40-year lease. The Government of Quebec assumed liability for any costs related to past environmental problems. The buyer became responsible for its own potential contamination and created an environmental fund for a maximum of US\$1 million a year. This fund is dedicated to decontaminating the property. The Government of Quebec, the buyer and the trust agreed to a protocol to clean up past contamination.

As a result of these initiatives, the buyer acquired the plant at a reasonable price. Financing was available because this process made environmental risk manageable for the banks. A schedule for decontaminating the property was established in advance. Three hundred jobs were saved. The operation of the plant generated fiscal benefits, and the appreciation of the land value will accrue to the government.

Provinces and territorial governments should work closely with municipalities for brownfield redevelopment. They need to give municipalities the planning authority to monitor the use of brownfield sites and to prevent future brownfields. They should permit municipalities to offer property tax incentives for brownfield redevelopment. Municipalities should be given more responsibility for sites with minor contamination, leaving more seriously contaminated sites to be administered directly by provincial governments. Provinces can work with municipalities to develop a cost-benefit analysis for proposed brownfield site projects, possibly offering financial incentives when a project

could make a substantial contribution to the job market and the economy. Provincial and territorial governments in partnership with municipalities should develop indicators of brownfield redevelopment and should regularly monitor the condition of land.

Provincial and territorial governments should promote developing liability coverage for those qualified to make site assessments (to eliminate the fear associated with initiating such assessments). Provinces should provide letters of assurance for assessments completed by accredited assessors, similar to approvals given upon completing building inspections under the Building Code. Developing insurance packages is an option.

Provincial and territorial governments should provide incentives to encourage the redevelopment of brownfields. These incentives do not need to involve substantial or even additional expenditures. Governments should examine their existing policies on promoting economic development to determine whether some policies could be applied to brownfield redevelopment. Together, perhaps via the CCME, provincial and territorial governments should collect case studies of successful brownfield redevelopment and analyze them for ideas and guidance.

Steps by the Government of Canada

The Government of Canada should provide leadership by example in terms of how it deals with lands under its jurisdiction. Compared with the systematic approaches adopted by certain provinces to establish clear rules governing liability (notably Manitoba, Nova Scotia, Alberta

and British Columbia), the Government of Canada lags in developing a approach to contaminated sites based on the CCME's 13 principles. Although the provinces generally have the lead in jurisdiction over contaminated sites, the Government of Canada has considerable authority to regulate contaminated sites on properties within its jurisdiction, such as federal facilities.

Some of the current proposed amendments to the *Bankruptcy and Insolvency Act* are a step in the right direction, because they would adequately protect receivers and trustees who administer contaminated sites. Much more could be done to establish federal policies and laws designed to deal with the unique problems associated with brownfields, such as establishing brownfield redevelopment pilot projects as part of the federal infrastructure program.

The Government of Canada should provide some incentives, such as permitting remediation costs to be deducted from taxes (including brownfield expenses in a flow-through shares program¹¹), and encouraging research directed toward redeveloping brownfields (for example compiling data on clean-up technologies, their effectiveness and costs). Some existing policies, such as those of the infrastructure program, might be made to apply to brownfield redevelopment.

Also, the federal government should explore the potential of trust funds to operate sites. The interest and the capital in a fund could be allowed to grow, to be used for clean-up, or to be transferred in any future sale of a site.

¹¹ Flow-through shares are an investment vehicle whereby tax deductions granted to a company are passed on to investors in that enterprise. While initially conceived to encourage investment in the oil and gas and mining industries, more recently, they have been applied to some companies engaged in activities deemed beneficial for the environment.

VII. Recommendations



The NRTEE makes the following recommendations, organized by key issue:

1. Legal Equity

The Canadian laws that apply joint and several liability to clean up contaminated sites and on third-party liability arising out of contaminated sites should be amended to follow the CCME principles. Joint liability should be used only as an absolute last resort against the parties responsible for contamination who fail to participate in, or who abuse, the allocation process. They should embrace the concept of orphan shares. (See Recommendation 5: Orphan Issues.)

2. Legal Uncertainty

Where they have not already done so, federal, provincial and territorial governments should move quickly to align their environmental laws with the CCME's 13 principles.

To reduce confusion, it is crucial that the laws and standards governing contaminated sites within the various jurisdictions be harmonized and simplified.

Clear rules governing the process should be introduced to streamline decision making.

There is a focused and ongoing role for national bodies such as the CCME, Health Canada and the NRC in protocol development, re-evaluation of existing data, and assembly and evaluation of new data.

4. Insurance Product Development

Provincial governments and key municipal governments with an interest in brownfield redevelopment should confer with property and casualty insurers to develop or adapt insurance products that would help municipal governments manage risks associated with redeveloping brownfields. Conveners of such a meeting could be the Federation of Canadian Municipalities and the Insurance Council of Canada.

5. Orphan Issues

The CCME should resume its work to develop mechanisms for funding orphan shares and the clean-up of orphan sites.

6. Improving Data on the Environmental Condition of Land

It is generally recognized that improving data has substantial economic benefit. A single-focus multistakeholder meeting should be organized by Statistics Canada and the NRTEE, with input from the CCME, in order to address issues of current disagreement,¹³ such as:

- What information is required to manage the Canadian land base on a sustainable basis?

¹² The process proposed by the Canadian Home Builders' Association and summarized in Appendix IV might help in this task.

¹³ Ibid

- What information is available now, and what information is required by users in all sectors?
- How can access to this information be improved, for example by means of electronic information technology?
- What is the best way to deal with sensitive or confidential information, for example to ensure that property values are not unjustifiably depressed?
- What is the best way to inform the public so that the issues are understood objectively and do not cause unnecessary alarm? A process for public education may be required.
- How can assembling better site-specific information help prevent future contamination?

7. Informing the Public and Public Education

A mechanism needs to be developed within each province, territory and First Nation to educate and involve the public in projects for redeveloping brownfields. Among other things, the mechanism should address the need for a transparent process to build public trust.

A casebook should be created on brownfield redevelopment based on successful cases from across the country.

8. Leadership by Example

Much could be achieved if federal-provincial-territorial governments set better examples in cleaning up their own contaminated sites. Failure to do so puts them in a poor moral position to demand better of private industry.

If some additional responsibility for contaminated sites is downloaded from one level of government to another, for example from a

province to its municipalities, then sufficient human and financial resources should be transferred as well, to ensure that the job is done properly. It is a question of sharing responsibility, not “passing the buck”.

A series of pilot projects for brownfield redevelopment drawing on the federal infrastructure program should be undertaken to create a national focus; to raise the profile of these issues; to help develop procedures, guidelines and protocols to prevent contamination and support remediation of brownfields and other contaminated sites; and to establish a process for their refinement over time.

First Nations have some brownfields on their urban lands. They have a strong interest in preventing contamination of land because of its effects on their food supply. Due to their deep awareness of their interdependence with the land, First Nations could provide leadership by example by practicing sustainable land use on their lands.

9. Other Government Initiatives and Partnerships

The Government of Canada should provide some incentives, such as permitting remediation costs to be deducted from taxes, including brownfield expenses in a flow-through shares program, and encouraging research into redeveloping brownfields.

Provincial and territorial governments should consider options for joint partnerships between business and government to redevelop brownfields.

Provincial and territorial governments should consider developing innovative concepts using trusts for cleaning up brownfields and other contaminated sites.

Provincial and territorial governments should work closely with municipalities in brownfield redevelopment. They may need to give municipi-

palities the planning authority to monitor the use of brownfield sites and to prevent future brownfields. They could allow municipalities to offer property tax incentives for brownfield redevelopment.

Municipalities should be given more responsibility over sites with minor contamination, leaving more seriously contaminated sites to be administered directly by provincial governments.

VIII. Conclusion



During the year that the Financial Services Program has been in operation, members of the Task Force have met with Canadians from many stakeholder groups who represent years of experience in dealing with brownfield redevelopment, contaminated sites and land information systems. These people have already made considerable progress on brownfield redevelopment at a time of transition involving some legal uncertainty. Together they have sent one overriding message: if governments in Canada provide clear and fair laws, then all other stakeholders will feel more confident in redeveloping brownfields.

The products of this program include one that is tangible, this report, and some that are more subtle, such as the informal alliances formed by some participants after the multistakeholder meetings, and the heightened awareness of brownfield issues as a result of the meetings. Long-term change requires that issues are revisited frequently as part of the process of informing the public.

The NRTEE has a responsibility to act as a catalyst to encourage steps that integrate the environment and the economy. The Financial Services Program has fulfilled this role.

However, much remains to be done, and now it is primarily up to other organizations to take up the challenge.

To the participants who gave so freely of their time and who contributed openly and cooperatively to the success of the Financial Services Program, the NRTEE extends its gratitude and thanks.

Appendix 1



**Summary of the Thirteen
Principles Governing
Contaminated Site Liability
adopted by The Canadian
Council of Ministers of the
Environment in 1993**

Summary of the Thirteen Principles Governing Contaminated Site Liability adopted by The Canadian Council of Ministers of the Environment in 1993

1. The principle of “polluter pays” should be paramount in framing contaminated site remediation policy and legislation.
2. In framing contaminated site remediation policy and legislation, member governments should strive to satisfy the principle of “fairness”.
3. The contaminated site remediation process should enshrine the three concepts of openness, accessibility, and participation.
4. The principle of “beneficiary pays” should be supported in contaminated site remediation policy and legislation, based on the view that there should be no “unfair enrichment”.
5. Government action in establishing contaminated site remediation policy and legislation should be based on the principles of “sustainable development”, integrating environmental, human health and economic concerns.
6. There should be a broad net cast for the determination of potential responsible persons. However, prior to entering the actual liability-allocation stages of the process, the following persons should have a conditional “exemption” based upon clearly defined statutory exemptions: (a) Lenders; lenders who hold a security interest in the property of a borrower should be granted a pre-foreclosure exemption from liability, beyond the outstanding balance of the debt, unless the lender had actual involvement in the control or management of the business of the borrower; and (b) Receivers, Receiver-Managers, Trustees (including trustees acting in a fiduciary capacity); these persons should be exempt from personal liability for pre-existing contamination, and only be liable if they fail to take reasonable steps to prevent further contamination, or otherwise fail to satisfactorily address ongoing environmental concerns at the site.
7. Remediation legislation should provide the necessary authority and means to enable the recovery of public funds expended on the remediation of contaminated sites from those persons deemed to be responsible for such sites. Furthermore, member governments should strive to achieve environmental priority over all other claims or charges on an estate that has entered receivership or bankruptcy.
8. Member governments should pay particular attention to the design of a process which will facilitate the efficient cleanup of sites and the fair allocation of liability. Further, this process should discourage excessive litigation to the maximum extent possible by promoting the use of alternative dispute resolution procedures.

9. A list of factors should be established for use in the liability-allocation process to allocate the liability of responsible persons depending upon the specific circumstances of their involvement, and in relation to the involvement of other responsible persons. The following list of “liability allocation factors” is suggested for use in cases where there is more than one responsible person to be considered in the allocation process. The list may not be exhaustive. Liability allocation factors:
 - a. when the substance became present at the site;
 - b. with respect to owners* or previous owners, including, but not limited to:
 - i. whether the substance was present at the site when ownership was assumed;
 - ii. whether the owner ought to have reasonably known of the presence of the substance when assuming ownership;
 - iii. whether the presence of the substance ought to have been discovered by the owner when assuming ownership, had the owner taken reasonable steps to determine the existence of contaminants at the site;
 - iv. whether the presence of the substance was caused solely by the act or omission of an independent third person;
 - v. the price the owner paid for the site and the relationship between that price and fair market value of the property had the substance not been present at the site at the time of purchase;
 - c. with respect to a previous owner, whether that owner sold the property without disclosing the presence of the substance at the site to the purchaser;
 - d. whether the person took reasonable steps to prevent the presence of the substance at the site;
 - e. whether the person dealing with the substance followed the accepted industry standards and practices of the day;
 - f. whether the person dealing with the substance followed the laws of the day;
 - g. once the person became aware of the presence of the substance, whether that person contributed to further accumulation or the continued release of the substance;
 - h. steps the person took on becoming aware of the presence of the substance, including immediate reporting to and cooperation with regulatory authorities;
 - i. whether the person benefited from the activity resulting in the contamination, and the monetary value of their benefit;
 - j. the degree of a person’s contribution to the contamination, in relation to the contribution of other responsible persons; and
 - k. the quantity and toxicity/degree of hazard of the substance that was discharged or otherwise released into the environment.

* Includes lessees and other occupiers.

10. Alternative Dispute Resolution (ADR) procedures should be made available by member governments as a means to resolve issues of liability for contaminated sites. For example, a four-step allocation process could be implemented as follows:

Step 1 - voluntary allocation - Upon designation of a contaminated site, and designation of responsible persons, the affected persons should be given a reasonable time-bound opportunity to allocate the cost of cleanup among themselves.

Step 2 - Mediated Allocation - Failing Step 1, the persons will be required to enter into an allocation process whereby an independent person or body will mediate a settlement.

Step 3 - Directed Allocation - Failing Step 2, the persons will be required to enter into an allocation process whereby an independent person or body will make an arbitrated apportionment of liability based upon its findings.

Step 4 - Failing Steps 1, 2 and 3, liability will default to joint and several liability among all responsible persons.

11. Discretion should be retained by member governments to designate sites as contaminated sites; however, for the purpose of better predictability, governments should clarify their policies for determining which sites are to be designated, with a view to eventually harmonizing their site-designation processes. These site-designation policies should designate sites based upon (a) risk to human health; and (b) extent of environmental risk. In addition, there should be public input into the evaluation of significant sites being considered for designation, as well as public notice when a site designation occurs.
12. A “responsible person” who completes the cleanup of a contaminated site to the satisfaction of the regulatory authority should be issued an official “certificate of compliance” by that authority, certifying that the site has been remediated to the required standards. These certificates, however, should expressly state that they are based on the condition of the contaminated site as at the date of issuance and that the remediation undertaken met the standards of the day; and that the responsible person may be liable for future clean-up (“prospective liability”), should further contamination subsequently be discovered.
13. Benchmarks should be developed for the remediation of contaminated sites, which will vary depending upon the land usage and site location of a particular site. The use of such benchmarks will allow remediation plans or orders to be tailored on a site-specific basis. There should be full public input into the development of these benchmarks.

Appendix II



List of Participants in Round Tables on Redeveloping Canada's Brownfield Sites

Participants in the Round Tables on Redeveloping Canada's Brownfield Sites

Toronto, October 24, 1996

Chair

Angus Ross
President
SOREMA Management Inc. &
CEO, SOREMA, Canadian Branch
NRTEE Member

Carol Ann Bartlett
Assistant General Counsel
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Beth Benson
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Douglas M. Bisset
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Michael Bordt
Chief, Environmental Information and
Spatial Accounts, National Accounts and
Environment Division
Statistics Canada

Wally Braul
Barrister & Solicitor
President
West Coast Environmental Law Association

Mark Cairns
Frontline Environmental

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Luc Charbonneau
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Samson Bélar Deloitte Touche

Bruce Clemmensen
Immediate Past President
Canadian Home Builders' Association

Mark Conway
Director of Planning
Toronto Economic Development Co.

David Crump
Director, Central Region
Ministry of Environment and Energy

Ann Davis
Partner, KPMG

Doug Dennis
Director, Insurance Products Division
Canada Mortgage and Housing Corporation

René DeVries
Central Projects Group

Peter K. Dunn
Director, Waste Management
Regional Environment Department
The Municipality of Metropolitan Toronto

Jason Edwards
Rapporteur

Steve Ellis
Councillor, Ward 9
The Municipality of Metropolitan Toronto

Brian Emmett
Commissioner on the Environment and
Sustainable Development
Government of Canada

Glenna Ford
Canadian Institute of Environmental
Law and Policy

John Gray
Chair of the Environmental Issues Committee of
the Canadian Bankers Association
Environmental Risk Management
Royal Bank of Canada

Jim Hennessey
Manager, National Underwriting Centre
G.E. Capital Mortgage Insurance

Alpa Jethua
Rapporteur

Ann Joyner
Facilitator

Joan King
Councillor, Seneca Heights
The Municipality of Metropolitan Toronto

Barbara Leonhardt
Director
Policy, Research and Systems Division
North York Planning Department

Christopher Morgan
Senior Policy Planner
Planning and Development
The Municipality of Metropolitan Toronto

<i>Terry Mundell</i> President Association of Municipalities of Ontario	<i>Leopold Belliveau</i> Mayor City of Moncton
<i>Ramani Nadarajah</i> Canadian Environmental Law Association	<i>William Borland</i> Director of Environmental Affairs J.D. Irving Co. Ltd.
<i>Steve Ossleton</i> Senior Vice-President, Risk Services Sedgwick Ltd.	<i>Richard Carpenter</i> Heritage Resources
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Appendix III



British Columbia's New Site Registry System

British Columbia's New Site Registry System

Policy Rationale

Section 20.21 of British Columbia's new contaminated sites legislation in the *Waste Management Act* responds to public concerns about a lack of a data base or registry pertaining to contamination in British Columbia. These concerns were first noted in 1991 by B.C. Environment's New Directions for Regulating Contaminated Sites: A Discussion Paper. That paper called for a centralized publicly accessible information system pertaining to contaminated sites.

Section 20.21 established a site registry and enables the Minister of Environment, Lands and Parks to appoint a registrar. Section 20.21 identifies the types of information which should be submitted to the registry, provides safeguards to prevent unwarranted entries, and established a right of public access to the registry.

The establishment of a site registry follows the trend adopted in contaminated sites statutes of the United States. For example, Maine's *Uncontrolled Hazardous Substances Act* established a registry, or inventory, of sites classified by whether they need further action, no action, or inspection. Massachusetts legislation similarly creates an inventory of sites by type, e.g. locations to be investigated, confirmed disposal sites, a remedial list, and delisted sites. The State of Washington's rules under the *Model Toxic Control Act* establish a Hazardous Sites List, which, among other things, shows the "hazard ranking" of the site and the current status of the remediation activities for the site. Other types of statutory inventories or registries are found in Oregon and Tennessee.

Contents of the Site Registry

Essentially, the site registry is a record of decisions and activities pursuant to the contaminated sites legislation. The site registry will include two basic types of information: information required by the regulator, and information voluntarily provided to the regulator pursuant to a particular provision. The site registry is not designed to reflect information which individuals or companies collect for their own purposes, e.g. environmental audits, site assessments prepared for parties when negotiating real estate transactions, or investigations provided to banks for loan approvals.

Section 20.21 (2) of the Act prescribes which information must be filed on the site registry. The source of registry information is the information sent to the registrar by the regulator. The regulator, for example, must provide site profiles, site investigations, orders, voluntary remediation agreements and many other types of information to the registrar. Each of these types of information is a defined term, and the legislation prescribes with considerable detail the circumstances in which the information is required or could be voluntarily disclosed.

Section 8 of the Contaminated Sites Regulation (enacted under the *Waste Management Act*) provides a supplementary list of the types of information which the regulator must provide to the registrar. For example, the list of information to be provided to the Registrar under Section 1 includes contaminated soil relocation agreements, decisions made by managers respecting whether site investigations will be ordered, remediation plans, approvals in principle and certificates of compliance, and allocation panel opinions.

“Loading” the Site Registry

Section 20.21 (3) of the Act authorizes the regulator to request the registrar to file certain types of information on the registry, even though the information is not included in the lists of Section 20.21 of the Act or Section 8 of the Regulation. Under Section 20.21 (3), the manager may file information which “would normally be obtained through a site profile or site investigation”, provided that the manager gives prior notice to owners or operators of the affected property and allows those persons to “show cause” why the information should not be entered on the site registry.

The regulator has the mandatory duty to “load” the registry with decisions of the appeal board under Section 20.21 (4) of the Act.

Access to the Registry

The registrar of the site registry is required by Section 20.21 (5) of the Act to provide “reasonable public access to information in the site registry”.

Sections 8 (2) and (3) of the Regulation allow the director at the Ministry of Environment, Lands and Parks to establish and implement policies for the operation of the site registry including such matters as hours for public access, electronic data storing formats, standardized information templates etc.. The Ministry anticipates that the site registry will use many of the features now used by the land titles registry, particularly the electronic means of access and the property identification system. The user of one registry will be able to switch easily (electronically) to the other. The site registry under the *Waste Management Act* will be set up to allow both electronic and personal access.

Appendix IV



**A Proposal from the Canadian
Home Builders' Association**

A Proposal from the Canadian Home Builders' Association¹

In its recent report, *Position Paper on Government Policies, Procedures and Criteria for the Cleanup of Contaminated Sites*, the Canadian Home Builders' Association (CHBA) has come up with a proposal that could make a significant contribution to the redevelopment of brownfields and other contaminated sites. This concept was discussed at the Toronto multistakeholder meeting on October 24, 1996. It would establish a consensus-building process where all interested parties could participate. It would allow for information to be brought to the table in an orderly fashion. It would encourage the creation and harmonization of reasonable standards for the redevelopment of brownfields and other contaminated sites across Canada. As an added benefit, it would gather site-specific data on lands considered as part of the process, providing practical examples of decisions regarding brownfields and other contaminated sites as guidance to others for building on successes and avoiding pitfalls.

The proposal suggests the development of a national process for the redevelopment of brownfields and other contaminated sites following the system used for the National Building and Fire Codes. (The subsequent paragraphs draw extensively from the CHBA Report.)

The National Building and Fire Codes are designed to protect health and safety in buildings. They have been in place for about fifty years. They have worked well. They have established practices which are familiar to all levels of

government and to interested businesses and individuals. They are developed and amended through the Canadian Commission on Building and Fire Codes (CCBFC), made up of individuals from all of the major sectors potentially affected. The CCBFC is supported by a secretariat located within the National Research Council. The Government of Canada has no direct jurisdiction over building regulations, so these are model codes. They have no force in law but are intended as models which provincial governments can use as is or amend to reflect local conditions. In fact, uniformity is quite high across the country.

The process is flexible. The codes are updated every five years (changes to deal with hazardous situations can be made more frequently). All proposed changes are reviewed by a standing committee of the CCBFC representing all interests.

The process is inclusive and builds consensus. Proposals for change arise from various sources, such as: the general public, architects, engineers, builders, trade contractors, system designers, manufacturers, federal government departments, provincial government ministries, scientists, and environmental organizations.

Any new provincial requirement which does not conform to the national model would be considered normally as a proposed change to the National Code at the next review. All these proposals are collected in one document, which outlines the current Section under review (if any), the proposed change, reasons for the

¹ The Canadian Home Builders' Association represents approximately 7,000 firms in the housing industry, who work together on a voluntary basis to advance the industry and improve its products. Its members come from all segments of the housing industry: builders, developers, renovators, manufacturers, suppliers, trade contractors, financial institutions, housing analysts, lawyers, accountants, marketing firms, architects, engineers, planners and technical consultants. Annual expenditures in the new housing and renovation industry have averaged almost \$37 billion annually so far in the 1990s. This generates the equivalent of approximately 700,000 person years of employment, including direct construction jobs and indirect jobs in the industries supplying inputs to housing construction sites, as well as induced jobs from the multiplier effect in the general economy.

change and the anticipated impact. The document is circulated for public comment to a large number of groups, government departments and individuals, and is readily available to anyone who requests it. All proposals, public representations and comments are considered by the standing committee, and then approved or rejected or approved with amendments.

This system provides all parties with an opportunity to review and comment on the contents of the model code. With support from the provinces, it can avoid “surprise” requirements, identify potential problems, remove impractical aspects of requirements or discover better options for reaching the same goals. The result is a code with a high degree of acceptance, credibility and compliance.

A national model establishing cleanup criteria for redeveloping brownfields and other contaminated sites could be addressed in a similar manner. Provinces would work towards uniformity, a standing review committee could be appointed with representation from the construction industry, and a review schedule could be established. The emphasis would be on practical responses to real problems.

The CHBA recommends that the process should take into consideration the following guidelines:

- The regulators setting criteria and the officials applying them must recognize that even the best figures for acceptable concentrations are only approximations, and often very conservative ones. Often, regulators seem to assume that future information will prove that criteria should be even more stringent. Reasonable judgement will be needed to regain control of this situation. A cleanup should only be required where there is a real risk to health.
- Recent work to allow risk assessment/risk management options, such as appropriate building methods, subsurface containment/stabilization and/or surface treatments to isolate people from contaminants should be encouraged in all jurisdictions.

- Generic criteria should include more site-specific considerations, while retaining their “recipe book” simplicity. Current guidelines offer different criteria, depending on the final use of the land, and sometimes on the type of soil. Additional qualifiers could be added to reflect different levels of risk and opportunities for cleanup on different sites, i.e. source of contamination, whether it is contained or spreading, presence or use of an underground aquifer, and neighbouring land use.
- Much more guidance is needed regarding the application of criteria, particularly for depth considerations. Application must be practical and reasonable.
- Consideration should be given to establishing records of decisions or some other form of precedents, such as case studies regarding the application of site-specific criteria and risk assessment/risk management, to expand knowledge of the available options for other landowners facing similar situations.
- An open, public system must be developed to review cleanup criteria and evolving risk assessment/risk management procedures on a national basis, with much more input from the planning, development and building sectors.

The Canadian Home Builders' Association, Canada Mortgage and Housing Corporation, the Canadian Council of Ministers of the Environment, Health Canada and the National Research Council could convene a meeting of all interested groups to consider establishing a model national process for setting cleanup criteria following the approaches used for the National Building and Fire Codes.

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